

TECHNICAL REVIEW DOCUMENT
For
Modification to
OPERATING PERMIT 95OPWE103
to be issued to:

Duke Energy Field Services, LLC
Enterprise Compressor Station
Weld County
Source ID 1230277

Prepared by Cathy Rhodes
January, 2002

I. PURPOSE:

This document establishes the basis for decisions made regarding the Applicable Requirements, Emission Factors, Monitoring Plan and Compliance Status of Emission Units covered within the Operating Permit proposed for this site. It is designed for reference during review of the proposed permit by the EPA and during Public Comment. This narrative is intended only as an adjunct for the reviewer and has no legal standing. Conclusions in this document are based on information provided in the application for minor permit modification received on January 2, 2002.

Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revisions, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised Construction Permit.

II. Source Description:

The Enterprise Compressor Station classified as a natural gas compressor station on a gas transmission line as set forth under Standard Industrial Classification Code 4922.

The plant is located in rural Weld County between Keenesburg and Roggen, Colorado. The area in which the plant operates is designated as attainment for all criteria pollutants. There are no affected states within 50 miles of the plant. Rocky Mountain National Park is a Federal Class I designated area within 100 kilometers of the plant.

III. REQUESTED MODIFICATION

The purpose of this permit modification is to incorporate the applicable requirements for a new glycol dehydrator for which Construction Permit 00WE0470 was issued. This glycol dehydrator replaced the dehydrator previously permitted in this operating permit. The replaced dehydrator was permitted under Construction Permit 97WE0533. ??this op action considered mod to cp, deleting dehydrator? The permittee provided a Final Approval self-certification. The revisions to this operating permit are made in lieu of issuing a Final Approval Construction Permit 00WE0470. The Final Approval for Construction Permit 93WE0553 had not been issued at the time this operating permit was prepared. The Construction Permit required compliance testing for all the engines. The testing has not been completed. The due date of the first semi-annual monitoring report required by this operating permit will be more than 180 days after the initial approval construction permit was issued and the equipment commenced operation.

The new Construction Permit also required the submittal of a compliance plan for all the sources. The Division accepts the monitoring proposal provided in the Title V application as the submittal of the compliance plan required by the Construction Permit. In the discussion in the following sections, the Division considers the Responsible Official certification submitted with the semi-annual report will serve as the self-certification for Construction Permit 97WE0553. The appropriate provisions of the Construction Permit have been directly incorporated into this operating permit. Applicable requirements are as follows.

Construction Permit 00WE0470

- Visible emissions not to exceed 20 or 30 percent, depending on operational conditions – Regulation No. 1, II.A.1.&4
- Limits VOC, HAP, and Benzene emissions on rolling twelve month bases (Note: The construction permit requires compliance with a monthly VOC emission limit for the first year of operation. Operation of this unit commenced on January 3, 2001, therefore a year has passed, and the monthly emission limit is no longer applicable)
- Limits natural gas processing rate, flare fuel consumption, and glycol flow rate
- Requires operation of a flare to control emissions and submittal of a compliance plan for operation and maintenance of the flare, along with proposed recordkeeping format – This plan was approved by the Division.....?

The permittee requested the following revisions to the Construction Permit in the final approval self-certification package:

2. Emission Factors: Triethylene glycol is contacted with the natural gas stream to remove moisture. This mixture is heated in the still portion of the unit to drive off the water. Some volatile organic compounds and hazardous air pollutants are also released with the water vapor. Emissions from this process are typically measured with a glycol analysis (rich/lean analysis) or predicted using the Gas Research Institute's computer software model GLYCalc. The model uses input values for the glycol recirculation rate, cubic feet of gas processed, desired moisture content (dew point) for the processed gas, and the amounts of various constituents in the natural gas in an algorithm to estimate VOC and HAP emissions.

The Division accepts the use of the GLYCalc model to estimate emissions in lieu of rich/lean testing. The computer model has the capability to predict the emission reductions from the use of an incinerator (flare) on the still vent and flash tank vent. At least once a month the parametric inputs for the GLYCalc model will be recorded. The record of the input parameters will provide a perspective on the range of the input values. The perspective developed will allow consideration of whether more frequent testing is needed for a better estimation of the results. An extended gas analysis will be performed at least once each calendar year as long as a consistent gas quality exists. The analysis reverts to quarterly when the results indicate variation in the gas quality. Each month the GLYCalc model will be used to estimate the emissions based on the parametric inputs and extended gas analysis.

Combustion emissions from the heater are exhausted through a stack separate from the still vent. This heater is rated at 0.6 million Btu/hr and falls under the insignificant activity category of Colorado Regulation No. 3, Part C, Section II.E.3.k. As an insignificant activity the boiler emissions do not need to be addressed directly by this Operating Permit.

3. Monitoring Plan: The monitoring requirements were established from Construction Permit 97WE0553, the Division guidance grid included at the end of this document, and the monitoring information provided in the Title V application. The permittee submitted information to demonstrate a consistent gas quality. This information was used to adjust the gas testing frequency from quarterly to an annual basis. If the gas quality does not remain consistent, testing shall revert to a quarterly basis.

Input parameters from the dehydrator for the GRI GLYCalc model will be recorded at least once per month. A daily record is to be maintained of the flare inspection for proper operation. Each month the newest version of the GRI GLYCalc computer model will be used to estimate the annual emissions of VOC and HAPs. An annual extended wet gas analysis is also required to verify or adjust the computer model inputs as necessary. Recording the values of model input parameters monthly allows the variability in the parameters to be followed.

A Revised APEN is required if a significant increase of VOC or HAPs occur as defined in Colorado Regulation No. 3, Part A, Section II.C.2. compared to the APEN currently on file with the Division. signature of the responsible official as evidence of compliance.

Miscellaneous

From time to time published emission factors are changed based on new or improved data. A logical concern is what happens if the use of the new emission factor in a calculation results in a source being out of compliance with a permit limit. For this operating permit, the emission factors or emission factor equations included in the permit are considered to be fixed until changed by the permit. Obviously, factors dependent on the fuel sulfur content or heat content can not be fixed and will vary with the test results. The formula for determining the emission factors is, however, fixed. It is the responsibility of the permittee to be aware of changes in the factors, and to notify the Division in writing of impacts on the permit requirements when there is a change in factors. Upon notification, the Division will work with the permittee to address the situation.